product thereof complexed with an HLA molecule, wherein the nucleic acid molecule is selected from the group consisting of (a) nucleic acid molecules which hybridize under stringent conditions to a molecule consisting of a nucleic acid sequence selected from the group consisting of SEQ ID NOs:4, 11 and 12, wherein the hybridizing nucleic acid molecules code for a cancer associated antigen precursor, (b) nucleic acid molecules that differ from the nucleic acid molecules of (a) in codon sequence due to the degeneracy of the genetic code, and (c) complements of (a) or (b), and

determining the presence or level of interaction between the agent and the nucleic acid molecule or the expression product as an indication that the subject has the cancer.

_F1_
cont

2.   (amended) The method of claim 1, wherein the agent is selected from the group consisting of

(a)   a nucleic acid molecule comprising any one of SEQ ID NOs:4, 11 and 12 or a fragment thereof,

(b)   an antibody that binds to an expression product of any one of SEQ ID NOs:4, 11 and 12, and

(c)   an agent that binds to a complex of an HLA molecule and a fragment of an expression product of any one of SEQ ID NOs:4, 11 and 12.

_F2_   118.   (amended) The method of claim 1, wherein the cancer is small cell lung cancer.

121.   (amended) The method of claim 1, wherein the nucleic acid molecule is selected from the group consisting of SOX1 (SEQ ID NO:4), SOX3 (SEQ ID NO:11) and SOX21 (SEQ ID

_F3_   NO:12).

123.   (amended) The method of claim 121, wherein the nucleic acid molecule is SOX1 (SEQ

_F4_   ID NO:4).

125.   (amended) The method of claim 121, wherein the nucleic acid molecule is SOX3 (SEQ ID NO:11).

_F5_   658703.1

126. (amended) The method of claim 121, wherein the nucleic acid molecule is SOX21 (SEQ ID NO:12).

Please add the following new claims:

128. (new) A method of diagnosing cancer, comprising:

contacting a biological sample isolated from a subject with an agent that specifically binds to a nucleic acid molecule, an expression product thereof, or a fragment of an expression product thereof complexed with an HLA molecule, wherein the nucleic acid molecule is selected from the group consisting of (a) nucleic acid molecules which hybridize under stringent conditions to a molecule consisting of SEQ ID NO:3, wherein the hybridizing nucleic acid molecules code for a cancer associated antigen precursor, (b) nucleic acid molecules that differ from the nucleic acid molecules of (a) in codon sequence due to the degeneracy of the genetic code, and (c) complements of (a) or (b), wherein the biological sample is isolated from a tissue selected from the group consisting of a non-brain, non-testis, non-prostate, non-small intestine and non-colon tissue, and

determining the presence or level of interaction between the agent and the nucleic acid molecule or the expression product as an indication that the subject has the cancer.

129. (new) The method of claim 128, wherein the cancer is small cell lung cancer.

130. (new) The method of claim 128, wherein the nucleic acid molecule is SOX2 (SEQ ID NO:3).

131. (new) The method of claim 128, wherein the agent is selected from the group consisting of

(a) a nucleic acid molecule comprising SEQ ID NO:3 or a fragment thereof,

(b) an antibody that binds to an expression product of SEQ ID NO:3, and

(c) an agent that binds to a complex of an HLA molecule and a fragment of an expression product of SEQ ID NO:3.

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132. (new) A method of diagnosing cancer, comprising:

contacting a biological sample isolated from a subject with an agent that specifically binds to a nucleic acid molecule, an expression product thereof, or a fragment of an expression product thereof complexed with an HLA molecule, wherein the nucleic acid molecule is selected from the group consisting of (a) nucleic acid molecules which hybridize under stringent conditions to a molecule consisting of SEQ ID NO:5 , wherein the hybridizing nucleic acid molecules code for a cancer associated antigen precursor, (b) nucleic acid molecules that differ from the nucleic acid molecules of (a) in codon sequence due to the degeneracy of the genetic code, and (c) complements of (a) or (b), wherein the biological sample is isolated from a tissue selected from the group consisting of a non-brain, non-testis tissue, and

determining the presence or level of interaction between the agent and the nucleic acid molecule or the expression product as an indication that the subject has the cancer.

133. (new) The method of claim 132, wherein the cancer is selected from the group consisting of small cell lung cancer, non-small cell lung cancer, melanoma, colon cancer, breast cancer, head and neck cancer, transitional cancer, leiomyosarcoma and synovial sarcoma.

134. (new) The method of claim 132, wherein the nucleic acid molecule is ZIC2 (SEQ ID NO:5).

135. (new) The method of claim 132, wherein the agent is selected from the group consisting of

(a) a nucleic acid molecule comprising SEQ ID NO:5 or a fragment thereof,

(b) an antibody that binds to an expression product of SEQ ID NO:5, and

(c) an agent that binds to a complex of an HLA molecule and a fragment of an expression product of SEQ ID NO:5.